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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/028,463

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Prabhaker R. Chitrapu

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EXAMINER

HO, CHUONG T

ART UNIT

PAPER NUMBER

2664

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/028,463

Applicant(s)

CHITRAPU, PRABHAKER R.

Examiner

CHUONG T. HO

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-32 is/are allowed.
- 6) ☒ Claim(s) 33-36 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 05/16/03.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

1. Claims 1-36 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 33-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Sheynblat et al. (U.S. Patent No. 6,313,786 B1).

In the claim 33, see figures 2, 3, Sheynblat et al. discloses the GPS receiver will typically store samples of the correlator outputs for SPS satellite (such as the data shown in FIG.3)...an improved GPS receiver processes several different types of data for each in view satellite (signal). These data types may include: a code phase corresponding to the maximum correlation peak value (quality) also referred to as main peak (measuring time-of-arrival); a set of code phases around the maximum correlation peak value....an integration period (time period); and a flag indicating presence of multiple peak (signals) and their locations relative to the main peak (see col. 7, lines 46-65) (see col. 9, lines 35-55); comprising:

- Monitoring and correlating with the periodic signal (signals, see figure 3, col. 8, lines 40-55) a time period (time=about 6, 8.5, see col. 8, lines 35-55) of length of the period signal period (see col. 8, lines 35-55) (see figures 2, 3);

- Identifying time locations (see col. 7, lines 46-65, a flag indicating presence of multiple peak (signals) and their locations relative to the main peak) in that time period (time = about 6, y = about 4500, see col. 8, lines 35-55) having a correlation peak with the period signal (see col. 8, lines 35-55, col. 7, lines 46-65);
 - For each identified peak, determining a quality factor (the peak-width, the peak-width deviation, and the shape of the correlator function are indicative of the multipath of the signal, see col. 14, lines 8-11) comprising a shape factor (see col. 20, lines 22-25, the correlation waveforms (correlation functions) are analyzed for inflection points which signify the deviation from an ideal peak shape and may represent points where multiple signal are combined) associated with that peak;
 - Storing for each identified peak (see col. 9, lines 60-65, col. 8, lines 40-55), that identified peak time location (elevation (degrees), see figure 2) and the quality factor (code phase = magnitudes , see figure 2) (see col. 7, lines 46-65) (see col. 9, lines 35-55);
 - Using the stored identified peak location (elevation (degrees)) and quality factor (code phase = magnitudes) for each identified peak (signals, see col. 8, lines 40-55) to determine the time location (elevation (degree)) of the periodic signal).
3. In the claim 34, Sheyblat et al. discloses the shape factor (see col. 20, lines 20-25) is based on in part a variance of a correlation of the peak location (elevation

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(degrees), see figure 2) and correlations of neighboring location (elevation (degrees), see figure 2, col. 9, lines 41-55, col. 8, lines 40-55).

4. In the claim 35, Sheyblat et al. discloses the shape factor is based on in part a standard deviation (see col. 14, lines 8-12) of a correlation of the peak location (elevation (degrees), see figures 2, 3, col. 8, lines 40-55) and correlations of neighboring locations (location of cell sites, see col. 9, lines 35-55) (elevation (degrees), figures 2,3, col. 9, lines 35-55, col. 8, lines 40-55).

5. In the claim 36, Sheyblat et al. discloses the shape factor is based on in part an arithmetic mean divided (see col. 14, lines 8-12) by a geometric mean of correlations of neighboring location with respect to the peak location (see col. 8, lines 40-55, col. 9, lines 35-65).

Allowable Subject Matter

6. Claims 1-17, 18-24, 25-32 are allowed.

7. The following is an examiner's statement of reasons for allowance: the prior art (6313786, 20030072356, 6768768, 6480558, 6385264, 6504830, 6185244, 6760361, 4785463, 4701934) of record does not appear to teach or render obvious the claimed limitations in combinations with the specific added limitations, as recited from independent claims 1, 18, 25: "for each identified PSCH location, determining a quality factor comprising a shape factor associated with that location's PSC peak; and storing for each identified PSCH location, that identified PSCH location and the quality factor".

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHUONG T. HO whose telephone number is (571) 272-3133. The examiner can normally be reached on 8:00 am to 4:00 pm.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

10/25/05


WELLINGTON CHIN
SENIOR PATENT EXAMINER